Listing of Claims:

Claim 1 (previously presented): In a data communication network, a method for operating a client node, said method comprising:

formatting an IP packet to include a header comprising a globally significant IP address identifying a realm and a locally significant IP address identifying a destination of said IP packet within said realm;

selecting one of said globally significant IP address and said locally significant IP address for use in forwarding said packet based on a location within the network; and

transmitting said IP packet using said selected address from said packet;

wherein said globally significant IP address and said locally significant IP address are both configured for use in forwarding said packet without address translation.

Claim 2 (original): The method of claim 1 further comprising:

resolving said globally significant IP address from a first component of a globally significant name; and

resolving said locally significant IP address from a second component of a locally significant name.

Claim 3 (original): The method of claim 2 wherein resolving said globally significant IP address comprises contacting a global DNS server.

Claim 4 (original): The method of claim 2 wherein resolving said globally significant IP address comprises contacting a local DNS server.

Claim 5 (original): The method of claim 2 wherein resolving said globally significant IP address comprises contacting an SIP server.

Claim 6 (original): The method of claim 1 wherein said globally significant IP address belongs to a range specified for realms.

Claim 7 (previously presented): In a data communication network, a method for operating a gateway node to handle a received packet, said method comprising:

extracting a globally significant destination address from a destination address field of said packet; and

if said globally significant destination address identifies a realm directly attached to said gateway node, extracting a locally significant destination address from said packet, placing said locally significant destination address in said destination address field, and forwarding said packet to a local destination within said realm;

wherein said globally significant destination address and said locally significant destination address are both contained within said packet so that said packet is forwarded to said local destination without using network address translation.

Claim 8 (original): The method of claim 7 further comprising:

if said globally significant destination address does not identify a realm directly attached to said gateway node, forwarding said packet to a next hop based on said globally significant destination address.

Claim 9 (original): The method of claim 7 further comprising:

advertising a realm reachable through said gateway node.

Claim 10 (original): The method of claim 9 wherein advertising comprises:

sending a border gateway protocol message identifying said realm reachable through said gateway node.

Claim 11 (previously presented): In a data communication network, a computer program product for operating an IP stack at a client node, said computer program product comprising:

code that formats an IP packet to include a header comprising a globally significant IP address identifying a realm and a locally significant IP address identifying a destination of said IP packet within said realm;

code that selects one of said globally significant IP address and said locally significant IP address for use in forwarding said packet based on a location within the network;

code that transmits said IP packet using said selected address from said packet; and

a computer-readable storage medium that stores the codes;

wherein said globally significant IP address and said locally significant IP address are both configured for use in forwarding said packet without address translation.

Claim 12 (original): The computer program product of claim 11 further comprising:

code that resolves said globally significant IP address from a first component of a globally significant name; and

code that resolves said locally significant IP address from a second component of a locally significant name.

Claim 13 (original): The computer program product of claim 12 wherein said code that resolves said globally significant IP address comprises code that contacts a global DNS server.

Claim 14 (original): The computer program product of claim 12 wherein said code that resolves said globally significant IP address comprises code that contacts a local DNS server.

Claim 15 (original): The computer program product of claim 12 wherein said code that resolves said globally significant IP address comprises code that contacts an SIP server.

Claim 16 (original): The computer program product of claim 11 wherein said globally significant IP address belongs to a range specified for realms.

Claim 17 (previously presented): In a data communication network, a computer program product for operating a gateway node to handle a received packet, said computer program product comprising:

code that extracts a globally significant destination address from a destination address field of said packet;

code that, if said globally significant destination address identifies a realm directly attached to said gateway node, extracts a locally significant destination address from said packet, placing said locally significant destination address in said destination address field, and forwards said packet to a local destination within said realm; and

a computer-readable storage medium that stores the codes;

wherein said globally significant destination address and said locally significant destination address are both contained within said packet so that said packet is forwarded to said local destination without using network address translation.

Claim 18 (original): The computer program product of claim 17 further comprising:

code that, if said globally significant destination address does not identify a realm directly attached to said gateway node, forwards said packet to a next hop based on said globally significant destination address.

Claim 19 (original): The computer program product of claim 17 further comprising:

code that advertises a realm reachable through said gateway node.

Claim 20 (original): The computer program product of claim 19 wherein said code that advertises comprises:

code that sends a border gateway protocol message identifying said realm reachable through said gateway node.

Claim 21 (previously presented): In a data communication network, apparatus for operating an IP stack at a client node, said apparatus comprising:

a processor; and

a memory storing instructions executed by said processor, said instructions comprising:

code that formats an IP packet to include a header comprising a globally significant IP address identifying a realm and a locally significant IP address identifying a destination of said IP packet within said realm;

code that selects one of said globally significant IP address and said locally significant IP address for use in forwarding said packet based on a location within the network; and

code that transmits said IP packet using said selected address from said packet;

wherein said globally significant IP address and said locally significant IP address are both configured for use in forwarding said packet without address translation.

Claim 22 (original): The apparatus of claim 21 wherein said instructions further comprise:

code that resolves said globally significant IP address from a first component of a globally significant name; and

code that resolves said locally significant IP address from a second component of a locally significant name.

Claim 23 (original): The apparatus of claim 22 wherein said code that resolves said globally significant IP address comprises code that contacts a global DNS server.

Claim 24 (original): The apparatus of claim 22 wherein said code that resolves said globally significant IP address comprises code that contacts a local DNS server.

Claim 25 (original): The apparatus of claim 22 wherein said code that resolves said globally significant IP address comprises code that contacts an SIP server.

Claim 26 (original): The apparatus of claim 21 wherein said globally significant IP address belongs to a range specified for realms.

Claim 27 (previously presented): In a data communication network, apparatus for operating a gateway node to handle a received packet, said apparatus comprising:

a processor; and

a memory that stores instructions executed by said processor, said instructions comprising:

code that extracts a globally significant destination address from a destination address field of said packet; and

code that, if said globally significant destination address identifies a realm directly attached to said gateway node, extracts a locally significant destination address from said packet, placing said locally significant destination address in said destination address field, and forwards said packet to a local destination within said realm;

wherein said globally significant destination address and said locally significant destination address are both contained within said packet so that said packet is forwarded to said local destination without address translation.

Claim 28 (original): The apparatus of claim 27 further wherein said instructions further comprise:

code that, if said globally significant destination address does not identify a realm directly attached to said gateway node, forwards said packet to a next hop based on said globally significant destination address.

Claim 29 (original): The apparatus of claim 27 wherein said instructions further comprise:

code that advertises a realm reachable through said gateway node.

Claim 30 (original): The apparatus of claim 29 wherein said code that advertises comprises:

code that sends a border gateway protocol message identifying said realm reachable through said gateway node.

Claim 31 (previously presented): In a data communication network, apparatus for operating a client node, said apparatus comprising:

means for formatting an IP packet to include a header comprising a globally significant IP address identifying a realm and a locally significant IP address identifying a destination of said IP packet within said realm;

means for selecting one of said globally significant IP address and said locally significant IP address for use in forwarding said packet based on a location within the network; and

means for transmitting said IP packet using said selected address from said packet;

wherein said globally significant IP address and said locally significant IP address are both configured for use in forwarding said packet without address translation.

Claim 32 (previously presented): In a data communication network, apparatus for operating a gateway node to handle a received packet, said method comprising:

means for extracting a globally significant destination address from a destination address field of said packet; and

means for, if said globally significant destination address identifies a realm directly attached to said gateway node, extracting a locally significant destination address

from said packet, placing said locally significant destination address in said destination address field, and forwarding said packet to a local destination within said realm;

wherein said globally significant destination address and said locally significant destination address are both contained within said packet so that said packet is forwarded to said local destination without using network address translation.

Claim 33 (previously presented): The method of claim 1 wherein the client node comprises a globally unique IP address.

Claim 34 (previously presented): The method of claim 33 wherein said globally unique IP address comprises a concatenation of a globally significant IP address of the client node's realm and the client's node locally unique address.

Claim 35 (previously presented): The method of claim 1 wherein said header comprises an encapsulation IP header and an inner IP header.

Claim 36 (previously presented): The method of claim 35 wherein said encapsulation IP header comprises said globally significant IP address identifying said realm and a globally significant IP address identifying a realm of the client node.

Claim 37 (previously presented): The method of claim 35 wherein said inner IP header comprises said locally significant IP address identifying the destination of said IP packet and a locally significant IP address identifying the client node.

Claim 38 (previously presented): The method of claim 1 wherein transmitting said IP packet comprises utilizing only said globally significant IP address in selecting a next hop node.